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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,861	04/11/2005	Hiroshi Fukushima	3693-62	2268

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
NGUYEN, LAUREN	

ART UNIT	PAPER NUMBER
2871	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,861	FUKUSHIMA ET AL.	
	Examiner	Art Unit	
	LAUREN NGUYEN	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7 and 9-16* is/are pending in the application.

4a) Of the above claim(s) *5,6,9 and 11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4, 7, 10, 12-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 02/01/2009 have been fully considered but they are not persuasive.

2. The applicant argues (see page 9) regarding the amended **claim 1** that **Eichenlaub** does not teach the limitations as claimed in. The examiner respectfully disagrees. Applicant misleadingly cites the passage suggesting that **Eichenlaub** counsels against the recited feature of a pair of polarizers sandwiching the pair of transparent-electrode substrates by omitting the previous sentence of the paragraph: "This variation uses a series of polarizing strips 35, with clear spaces in between as shown, placed on the back side of a piece of glass 36, with the polarization direction of the strips 35 parallel to the polarization direction of the rear polarizer 40 of the image forming LCD 26" (in at least column 6, lines 66-67; and column 7, and 1-4). In other words, the reference itself teaches a rear polarizer 40 placed in between the imaging LCD glass 42 and the secondary LCD glass 38, and in no way teaches away from doing so. In addition, **Eichenlaub** also teaches the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other (see at least column 7, lines 1-4).

3. The claim language therefore does not patentably distinguish over the applied reference[s], and the previous rejections are maintained.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1, 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight (US 5,825436)** in view of **Eichenlaub (US 6,157,424)**.

6. Regarding **claim 1**, **Knight** (figure 5) discloses a parallax barrier device comprising a pair of transparent-electrode substrates each provided with a transparent electrode (see at least column 3, lines 40-45),

- wherein a barrier light-shielding part (80; see at least column 3, lines 40-45) and a light-transmitting part (82) are formed in a gap between the pair of transparent-electrode substrates,
- a liquid crystal layer (76) is formed in the barrier light-shielding part, and
- a resin layer (82) having the property of transmitting light is formed in the light-transmitting part,
- the barrier light-shielding part and the light-transmitting part (80, 82) are alternately arranged along a direction in a plane parallel to the pair of transparent-electrode substrates.

7. **Knight** does not disclose a pair of polarizers sandwiching the pair of transparent-electrode substrates therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other. However, **Eichenlaub**, in at least column 6, lines 66-67; and column 7, and 1-4, figures 2 and 6, discloses a pair of polarizers (35 and 40) sandwiching the pair of transparent-electrode substrates (36 and 38) therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other (see at least column 7, lines 1-4). It would have been obvious to one of ordinary skill in the

art at the time of the invention to combine the parallax barrier device of **Knight** with the pair of polarizers of **Eichenlaub** because such modification would provide a thinner, simpler, and less expensive device in which 2D image can be viewed without applying voltage to the barrier device and 3D image can be viewed by applying voltage to the barrier device (see at least column 7, lines 10-25).

8. Regarding **claim 7**, **Knight** (figure 5) discloses the transparent electrode provided in each of the pair of transparent-electrode substrates is a common electrode (see at least column 3, lines 40-45).

9. **Claims 1-3, 7, 10 are** rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakata (US 4,729,640)** in view of **Eichenlaub (US 6,157,424)**.

10. Regarding **claim 1**, **Sakata** (figure 1A) discloses a parallax barrier device comprising a pair of transparent-electrode substrates each provided with a transparent electrode (ITO),

- wherein a barrier light-shielding part (2) and a light-transmitting part (1) are formed in a gap between the pair of transparent-electrode substrates,
- a liquid crystal layer (2; see at least column 5, lines 15-20) is formed in the barrier light-shielding part, and
- a resin layer (1) having the property of transmitting light is formed in the light-transmitting part, and
- the barrier light-shielding part and the light-transmitting part (1, 2) are alternately arranged along a direction in a plane parallel to the pair of transparent-electrode substrates.

11. **Sakata** does not disclose a pair of polarizers sandwiching the pair of transparent-electrode substrates therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other. However, **Eichenlaub**, in at least column 6, lines 66-67; and column 7, and 1-4, figures 2 and 6, discloses a pair of polarizers (35 and 40) sandwiching the pair of transparent-electrode substrates (36 and 38) therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other (see at least column 7, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the parallax barrier device of **Sakata** with the pair of polarizers of **Eichenlaub** because such modification would provide a thinner, simpler, and less expensive device in which 2D image can be viewed without applying voltage to the barrier device and 3D image can be viewed by applying voltage to the barrier device (see at least column 7, lines 10-25).

12. Regarding **claim 3**, **Sakata** (figure 1A) discloses the width of the barrier light-shielding part in the direction in the plane is larger than or equal to the width of the light-transmitting part in the direction in the plane.

13. Regarding **claim 7**, **Sakata** (figure 1A) discloses the transparent electrode provided in each of the pair of transparent-electrode substrates is a common electrode.

14. Regarding **claim 10**, **Sakata** (figure 1A) discloses the resin layer having the property of transmitting light also functions as a spacer for maintaining a uniform space between the pair of transparent-electrode substrates.

15. **Claims 3 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** in view of **Eichenlaub**; further in view of **Sakata (US 4,729,640)**.

16. Regarding **claim 3**, **Knight as modified by Eichenlaub** teaches the limitations as shown in the rejection of **claim 1** above. **Knight as modified by Eichenlaub** does not disclose the width of the barrier light-shielding part in the direction in the plane is larger than or equal to the width of the light-transmitting part in the direction in the plane. However, **Sakata** (in at least figure 1A; column 4, lines 25-30 and column 9, lines 50-55) discloses the width of the barrier light-shielding part in the direction in the plane is larger than or equal to the width of the light-transmitting part in the direction in the plane (1, 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device as taught by **Sakata** since it was known that is the most basic construction of the liquid crystal modulation device and such modification would improve the light flux utilization efficiency and the contrast ratio of LCD devices.

17. Regarding **claim 10**, **Sakata** (figure 1A) teaches the resin layer having the property of transmitting light also functions as a spacer for maintaining a uniform space between the pair of transparent-electrode substrates.

18. **Claims 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** in view of **Eichenlaub** (or **Sakata in view of Eichenlaub);** further in view of **Baek (US 2004/0004687).**

19. Regarding **claim 4**, **Knight as modified by Eichenlaub** (or **Sakata as modified by Eichenlaub)** discloses the limitations as shown in the rejection of **claim 1** above. **Knight as modified by Eichenlaub** (or **Sakata as modified by Eichenlaub)** does not disclose the liquid crystal layer as claimed in **claim 4**. However, **Baek** (in at least paragraphs 0011 and 0021-0022) discloses the liquid crystal layer is a liquid crystal layer (23, figure 3) exhibiting homogeneous alignment and containing a liquid crystal material whose dielectric-constant anisotropy is

positive, and the liquid crystal layer has a retardation of 1/2 of the wavelength of light entering the liquid crystal layer under application of no voltage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal layer as taught by **Baek** since it was known in the art that using such liquid crystal layer is a known method of controlling the light going through the liquid crystal display devices.

20. **Claims 12-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** in view of **Eichenlaub**; further in view of **Akins et al. (US 6,842,170).**

21. Regarding **claim 12**, **Knight** (figure 5) **as modified by Eichenlaub** teaches a display apparatus comprising: the parallax barrier device of claim 1; and an image display device. **Knight as modified by Eichenlaub** does not disclose pixel parts. However, **Akins et al.** (in at least column 2, lines 23-54) teaches an analogous display having pixels. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the display disclosed by **Knight as modified by Eichenlaub** to incorporate pixels in the display to allow portions of the display to be individually controlled according to conventional addressing means. Therefore, **Knight as modified by Eichenlaub and Akins et al.** teaches a first pixel part constituting the first image and a second pixel part constituting the second image.

22. Regarding **claim 13**, **Knight as modified by Eichenlaub and Akins et al.** teaches the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye.

Please note that the claims are directed to apparatus which must be distinguished over the prior art in term of structure rather than functions [MPEP 2114]. Hence, the functional limitations of " the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye" which are narrative in form have not been given any patentable weight. In order to be given patentable weight, a functional recitation must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. See In re Danley, 120 USPQ 528, 531 (CCPA 1959).

23. Regarding **claim 14**, **Knight** (figure 5) discloses a light source placed at a larger distance from a viewer than those from the parallax barrier device and the image display device (see at least column 3, lines 20-30).

24. Regarding **claim 15**, **Knight** (figure 5) discloses the liquid crystal layer switches display between a first display and a second display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates (see at least column 3, lines 40-45).

25. Regarding **claim 16**, since **Knight** (figure 5; column 3, lines 40-45) discloses the liquid crystal layer switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates, **Knight** implicitly discloses switches display between a stereoscopic display and a plane display.

26. **Claims 12-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakata in view of Eichenlaub**; further in view of **Lipton (US 5,686,975)**.

27. Regarding **claim 12**, **Sakata as modified by Eichenlaub** discloses a display apparatus comprising the parallax barrier device of claim 1 but does not disclose the image display. **Lipton** (figures 1-3) discloses an image display device (301) including a first pixel part constituting the first image and a second pixel part constituting the second image (L and R, figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display apparatus as taught by **Lipton** because such modification would achieve an increase in profitability.

28. Regarding **claim 13**, **Lipton** (figures 1-3) discloses the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye (L and R, figure 3).

29. Regarding **claim 14**, **Lipton** (figures 1-3) discloses a light source (300) placed at a larger distance from a viewer than those from the parallax barrier device and the image display device (301 and 303).

30. Regarding **claim 15**, **Sakata as modified by Eichenlaub and Lipton** (figures 1-3) discloses the liquid crystal layer (202) switches display between a first display and a second display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates (see at least column 7, lines 45-50).

31. Regarding **claim 16**, **Sakata as modified by Eichenlaub and Lipton** (figures 1-3) discloses the liquid crystal layer switches display between a stereoscopic display and a plane display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates. (see at least column 7, lines 45-50).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Nguyen whose telephone number is (571) 270-1428. The examiner can normally be reached on M-Th, 7:30-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. N./
Examiner, Art Unit 2871

/Andrew Schechter/
Primary Examiner, Art Unit 2871